

What is claimed is:

1.(Amended) An electroless plating method comprising the steps of:

5 forming a metallic film made of a metal on which an electroless plating film can be deposited on part of the surface of an object to be plated, or causing the metal to be in contact with part of the surface of the object to be plated, made of a constituent material to which an electroless plating can not be applied; and

10 dipping the object to be plated having said metallic film formed thereon or having said metal in contact therewith in an electroless plating bath, and forming an electroless plating film on the surface of the object to be plated, without the metallic film formed thereon and the metal in contact therewith.

2. An electroless plating method comprising the steps of:

15 forming a metallic film made of a metal on which an electroless plating film can be deposited on part of the surface of an object to be plated, or causing the metal to be in contact with part of the surface of the object to be plated, made of a constituent material to which an electroless plating can not be applied;

20 dipping the object to be plated having said metallic film formed thereon or having said metal in contact therewith in an electroless plating bath, and forming an electroless plating film on the entire surface of the object to be plated, containing said metallic film or the metal;

25 removing said metallic film or the metal, and portions of the electroless plating film, covering up the metallic film or the metal, from said object to be plated; and

dipping again the object to be plated subjected to the steps described above in the electroless plating bath.

3. (Amended) An electroless plating method comprising the steps of:

5        forming a metallic film made of a metal on which an electroless plating film can be deposited on part of the surface of an object to be plated, or causing the metal to be in contact with part of the surface of the object to be plated, made of a constituent material to which an electroless plating can not be applied; and

10       dipping the object to be plated having the metallic film formed thereon or having the metal in contact therewith in an electroless plating bath,

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wherein said object to be plated is made of plural kinds of constituent materials.

4. (Amended) An electroless plating method comprising the steps of:

5        forming a metallic film made of a metal on which an electroless plating film can be deposited on part of the surface of an object to be plated, or causing the metal to be in contact with part of the surface of the object to be plated, made of a constituent material to which an electroless plating can not be applied; and

10       dipping the object to be plated having the metallic film formed thereon or having the metal in contact therewith in an electroless plating bath, wherein said object to be plated is a thermoelectric semiconductor.

5. An electroless plating method according to claim 2, wherein said electroless plating film is formed so as to have a dual-layer structure comprised of not less than two metallic films.

6. (Amended) An electroless plating method comprising the steps of:

forming a metallic film made of a metal on which an electroless plating film can be deposited on one of end faces of a thermoelectric device block formed integrally with a plurality of thermoelectric semiconductors, disposed with an insulation layer interposed therebetween, respectively;

20       dipping said thermoelectric device block having the metallic film formed thereon in an electroless plating bath, and forming an electroless plating film on said metallic film and the other end face of the respective thermoelectric semiconductors, on the side thereof, opposite from the end face on which the metallic film is formed;

removing said metallic film and a portion of the electroless plating film covering up the metallic film; and

dipping again the thermoelectric device block subjected to the steps described above in the electroless plating bath, and forming an  
5 electroless plating film on the end face of the respective thermoelectric semiconductors from which the metallic film is removed.

7. (Amended) An electroless plating method comprising the steps of:

causing a metal on which an electroless plating film can be  
10 deposited to be in contact with a part of at least one of end faces of

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respective thermoelectric semiconductors of a thermoelectric device block formed integrally with a plurality of thermoelectric semiconductors, disposed with an insulation layer interposed therebetween, respectively;

5 dipping the thermoelectric device block having said metal in contact therewith in an electroless plating bath, and forming an electroless plating film on the entire surface of the respective thermoelectric semiconductors, except the part thereof, in contact with said metal,

10 separating the metal in contact with the respective thermoelectric semiconductors therefrom; and

dipping again the thermoelectric device block subjected to the steps described above in the electroless plating bath, and forming an electroless plating film on the part of the end faces of the respective thermoelectric semiconductors, in contact with said metal.

15 8. (Amended) An electroless plating method comprising the steps of:

forming a metallic film made of a metal on which an electroless plating film can be deposited on an end face of respective insulation layers disposed on the side of one of end faces of a thermoelectric device block formed integrally with a plurality of thermoelectric semiconductors, disposed with the respective insulation layers interposed therebetween, such that the metallic film spans said respective insulation layers and a portion of respective end faces of both the thermoelectric semiconductors adjacent to each other across the respective insulation layers alternately disposed; and

25 dipping the thermoelectric device block having said metallic film

formed thereon in an electroless plating bath, and forming an electroless plating film on said metallic film and both end faces of the respective thermoelectric semiconductors with the metallic film formed on the portion of the end face thereof.

5           9. (Amended) An electroless plating method comprising the steps of:

          forming a metallic film made of a metal on which an electroless plating film can be deposited on either an end face or the other end face of respective insulation layers, alternately, on the sides of both end faces  
10       of a thermoelectric device block formed integrally with a plurality of thermoelectric semiconductors, disposed with the respective insulation layers interposed therebetween, such that the metallic film spans the respective insulation layers and a portion of respective end faces of both the thermoelectric semiconductors adjacent to each other across the  
15       respective insulation layers; and

          dipping the thermoelectric device block having said metallic film formed thereon in an electroless plating bath, and forming an electroless plating film on said metallic film and both end faces of the respective thermoelectric semiconductors with the metallic film formed on the  
20       portion of the end face and the other end face thereof.

          10. An electroless plating method according to any one of claims 6 to 9, wherein use is made of said thermoelectric device block provided with an exposed outer sidewall face of respective thermoelectric semiconductors positioned at opposite ends in the direction along which  
25       the respective thermoelectric semiconductors are arranged, and an electroless plating film is also formed on the exposed outer sidewall faces of respective thermoelectric semiconductors positioned at opposite

ends as well in said step of forming the electroless plating film.

11. An electroless plating method according to any one of claims

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6 to 9, further comprising the step of rendering the end face of the thermoelectric device block into a rough surface prior to the step of forming the electroless plating film on said thermoelectric device block.

5 12. An electroless plating method according to any one of claims 6 to 9, further comprising the step of cleaning said thermoelectric device block before or after the step of forming the electroless plating film on said thermoelectric device block.

10 13.(added) An electroless plating method comprising the steps of:  
forming a metallic film made of a metal on which an electroless  
plating film can be deposited on part of the surface of an object to be  
plated, or causing the metal to be in contact with part of the surface of  
the object to be plated, made of a constituent material to which an  
electroless plating can not be applied;

15 dipping the object to be plated having the metallic film formed  
thereon or having the metal in contact therewith in an electroless plating  
bath, and forming an electroless plating film on the entire surface of the  
object to be plated, containing the metallic film or the metal;

20 removing the metallic film or the metal, and portions of the  
electroless plating film, covering up the metallic film or the metal, from  
the object to be plated; and

dipping again the object to be plated subjected to the steps  
described above in the electroless plating bath, wherein the object to be  
plated is made of plural kinds of constituent materials.

25 14. (added) An electroless plating method comprising the steps of:  
forming a metallic film made of a metal on which an electroless  
plating film can be deposited on part of the surface of an object to be  
plated, or causing the metal to be in contact with part of the surface of



the object to be plated, made of a constituent material to which an electroless plating can not be applied;

dipping the object to be plated having the metallic film formed thereon or having the metal in contact therewith in an electroless plating bath, and forming an electroless plating film on the entire surface of the  
5 object to be plated, containing the metallic film or the metal;

removing the metallic film or the metal, and portions of the electroless plating film, covering up the metallic film or the metal, from  
the object to be plated; and

10 dipping again the object to be plated subjected to the steps described above in the electroless plating bath, wherein the object to be plated is a thermoelectric semiconductor.

15. (added) An electroless plating method comprising the steps of:

preparing an object to be plated, comprised of metal or  
15 semiconductors, to which an electroless plating can not be applied, and insulators;

forming a metallic film made of a metal on which an electroless plating film can be deposited on part of the surface of the object to be  
plated, or causing the metal to be in contact with part of the surface of  
20 the object to be plated;

dipping the object to be plated having the metallic film formed thereon or having the metal in contact therewith in an electroless plating bath; and

forming an electroless plating film on the entire surface of the  
25 object to be plated, except for the insulators.

16.(added) An electroless plating method according to claim 1,  
wherein use is made of a metal or a semiconductor, to which an

electroless plating can not be applied, as the constituent material to which an electroless plating can not be applied.

5     17.(added) An electroless plating method according to claim 2, wherein use is made of a metal or a semiconductor, to which an electroless plating can not be applied, as the constituent material to which an electroless plating can not be applied.

10     18. (added) An electroless plating method according to claim 3, wherein use is made of a metal or a semiconductor, to which an electroless plating can not be applied, as the constituent material to which an electroless plating can not be applied.

15     19. (added) An electroless plating method according to claim 13, wherein use is made of a metal or a semiconductor, to which an electroless plating can not be applied, as the constituent material to which an electroless plating can not be applied.

20     20. (added) An electroless plating method according to any one of claims 1 to 4, claims 6 to 9, and claims 13 to 15, wherein use is made of palladium, platinum or nickel as the metal on which the electroless plating film can be deposited.

25     21. (added) An electroless plating method according to claim 15, wherein use is made of an insulating resin for the insulators.

22. (added) An electroless plating method according to any one of claims 6 to 9, wherein use is made of an insulating resin for the insulation layers.